

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

Claim 1 (Original): A process for producing a crude oil having lowered unsaponifiable matter content and/or ester-type sterol content and comprising a highly unsaturated fatty acid as a constituent fatty acid, characterized in that a microorganism capable of producing a fat or oil comprising an unsaturated fatty acid as a constituent fatty acid is cultured in a medium containing a nitrogen source concentration of 2 to 15% within a culture tank equipped with an agitation impeller satisfying the requirement that the ratio of the diameter of agitation impeller (= d) to the inner diameter of the culture tank (= D) is $d/D = 0.30$ to 0.6 .

Claim 2 (Original): The process according to claim 1, wherein the ratio of the diameter of agitation impeller (= d) to the inner diameter of the culture tank (= D) is $d/D = 0.34$ to 0.6 .

Claim 3 (Currently Amended): The process according to claim 1 or 2, wherein the nitrogen source contains a nitrogen source which has been sterilized at a pH of not more than 5.

Claim 4 (Currently Amended): A process for producing a refined fat or oil, characterized by comprising refining the crude oil produced by the process according to ~~any one of claims 1 to 3~~ claim 1.

Claim 5 (Currently Amended): The process for producing a crude oil comprising a highly unsaturated fatty acid having lowered unsaponifiable matter content and/or ester-type sterol content as a constituent fatty acid according to ~~any one of claims 1 to 3, or the process for producing a refined fat or oil according to claim 4~~ claim 1, characterized in that not less than 70% of the fat or oil comprising said highly unsaturated fatty acid as the constituent fatty acid is accounted for by a triglyceride.

Claim 6 (Currently Amended): The process according to ~~any one of claims 1 to 5~~ claim 1, wherein the highly unsaturated fatty acid constituting the fat or oil is γ -linolenic acid (18:3 ω 6), dihomogamma-linolenic acid (20:3 ω 6), arachidonic acid (20:4 ω 6), 7,10,13,16-docosatetraenoic acid (22:4 ω 6), 4,7,10,13,16-docosapentaenoic acid (22:5 ω 6), α -linolenic acid (18:3 ω 3), 6,9,12,15-octadecatetraenoic acid (18:4 ω 3), 8,11,14,17-eicosatetraenoic acid (20:4 ω 3), eicosapentaenoic acid (20:5 ω 3), 7,10,13,16,19-docosapentaenoic acid (22:5 ω 3), 4,7,10,13,16,19-docosahexaenoic acid (22:6 ω 3), 6,9-octadecadienoic acid (18:2 ω 9), 8,11-eicosadienoic acid (20:2 ω 9), or 5,8,11-eicosatrienoic acid (Mead acid: 20:3 ω 9) or a combination of two or more of them.

Claim 7 (Currently Amended): The process according to ~~any one of claims 1 to 6~~ claim 1, wherein the microorganism is one belonging to the genus Mortierella, Conidiobolus, Pythium, Phytophthora, Penicillium, Cladosporium, Mucor, Fusarium, Aspergillus, Rhodotorula, Entomophthora, Echinosporangium, or Saprolegnia.

Claim 8 (Currently Amended): The process according to ~~any one of claims 1 to 7~~ claim 1, wherein said microorganism is one belonging to the genus Mortierella, subgenus Mortierella.

Claim 9 (Original): The process according to claim 8, wherein the microorganism belonging to the subgenus Mortierella is the species alpina belonging to the genus Mortierella.

Claim 10 (Currently Amended): A crude oil characterized by having an unsaponifiable matter content of not more than 2.2% by weight produced by the process according to ~~any one of claims 1 to 9~~ claim 1.

Claim 11 (Original): A refined fat or oil produced by refining the crude oil according to claim 10.

Claim 12 (Currently Amended): A crude oil characterized by having an ester-type sterol content of not more than 1.0% by weight produced by the process according to ~~any one of claims 1 to 9~~ claim 1.

Claim 13 (Original): A refined fat or oil produced by refining the crude oil according to claim 12.

Claim 14 (Original): A crude oil comprising a fat or oil having lowered unsaponifiable matter content and/or ester-type sterol content comprising, as a constituent fatty acid, a highly unsaturated fatty acid, characterized in that the unsaponifiable matter content of the fat or oil is not more than 2.2% by weight.

Claim 15 (Original): A refined fat or oil produced by refining the crude oil according to claim 14.

Claim 16 (Original): A crude oil comprising a fat or oil having lowered unsaponifiable matter content and/or ester-type sterol content comprising, as a constituent fatty acid, a highly unsaturated fatty acid, characterized in that the ester-type sterol content of the fat or oil is not more than 1.0% by weight.

Claim 17 (Original): A refined fat or oil produced by refining the crude oil according to claim 16.

Claim 18 (Currently Amended): A general food and drink, a functional food, a nutrition supplement, a formula for premature babies, a formula for mature babies, a food for infants, a food for expectant and nursing mothers, or a food for aged persons, comprising the crude oil and/or the refined fat or oil according to ~~any one of claims 10 to 17 incorporated therein~~ claim 10.

Claim 19 (Currently Amended): A therapeutic nutrition food comprising the crude oil and/or the refined fat or oil according to ~~any one of claims 10 to 17 incorporated therein optionally together with a neutral carrier suitable for oral, intrarectal or parenteral administration~~ claim 10.

Claim 20 (Currently Amended): A food for animals or fishes, comprising the crude oil and/or the refined fat or oil according to ~~any one of claims 10 to 17 incorporated therein~~ claim 10.

Claim 21 (Currently Amended): A pharmaceutical composition, comprising the crude oil and/or the refined fat or oil according to ~~any one of claims 10 to 17~~ incorporated therein claim 10.

Claim 22 (Currently Amended): A pharmaceutical composition prepared by using the crude oil and/or the refined fat or oil according to ~~any one of claims 10 to 17 as a raw material~~ claim 10.

Claim 23 (New): The process for producing a refined fat or oil according to claim 4, characterized in that not less than 70% of the fat or oil comprising said highly unsaturated fatty acid as the constituent fatty acid is accounted for by a triglyceride.

Claim 24 (New): The therapeutic nutrition food according to claim 19, further comprising a neutral carrier suitable for oral, intrarectal or parenteral administration.